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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/584,351

06/23/2006

Hideshi Onishi

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05/14/2010

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EXAMINER

FREEMAN, JOHN D

ART UNIT

PAPER NUMBER

1787

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05/14/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/584,351	<b>Applicant(s)</b> ONISHI, HIDESHI	
	<b>Examiner</b> John Freeman	<b>Art Unit</b> 1787	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 April 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION*****Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9 April 2010 has been entered.

***Claim Rejections - 35 USC § 103***

1. Claims 1-2, 4-6, and 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miharu et al. (WO 96/18681) in view of Ninomiya et al. (US 6,184,288) and Saxton (US 5,032,632).

2. Regarding claims 1-2:

3. Miharu discloses a thermoplastic resin composition comprising EVOH, an ionomer, and a polyamide, i.e. a blend (p3 ln 2-8). Suitable polyamides include nylon 6, nylon 66, and nylon 6/66 copolymer (p7 ln 5-9). The amount of polyamide ranges from 2 to 50 parts by weight relative to 100 parts by weight of EVOH. The thermoplastic can be used in a laminate with other layers including layers of polyamide and polyolefin (p9 ln 30-p10 ln 25). Polyolefins include polyethylene and polypropylene (p9 ln 34-35). Miharu discloses a laminate wherein a layer of the thermoplastic resin is surrounded by a layer of polyamide and a layer of polyolefin, which corresponds to Applicant's b/a/c structure. Example film thicknesses include 50 µm (p11 ln 33). Furthermore, the presently claimed thicknesses are merely dependent on the intended use for the film, and were well within the skill level of the ordinary artisan.

4. Miharu is silent with regard to a ratio of alkaline metal salt to alkaline earth metal salt, and a phosphorous compound.

5. Ninomiya discloses ethylene-vinyl alcohol (EVOH) pellets and films made from said pellets (col 1 ln 7-12). The EVOH pellets exhibit improved moldability and provide moldings with good appearance and quality and good stretchability (col 2 ln 1-6). Ninomiya saponifies ethylene-vinyl acetate to create the EVOH (col 2 ln 57-63). The pellets contain a boron compound (c1), an alkaline metal acetate (c3), an

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alkaline earth metal acetate (c4), and a phosphoric acid compound (c5) (col 2 ln 17-23). Ninomiya teaches the use of antioxidant compounds in the pellets (col 7 ln 24).

6. At the time of the invention, it would have been obvious to one of ordinary skill in the art to use the EVOH pellets as taught by Ninomiya in the thermoplastic composition taught by Miharu to provide good moldability and stretchability, as well as resultant molding having a good appearance.

7. Both Miharu and Ninomiya are silent with regard to a hindered phenol antioxidant.

8. Such antioxidants were well-known in the art at the time of the invention. For example, Saxton teaches an EVOH polymer having metal salts and a hindered phenolic antioxidant (col 2 ln 61-65, col 3 ln 1-2).

9. At the time of the invention, it would have been obvious to one of ordinary skill in the art to use a hindered phenolic antioxidant in the composition taught by the combination of Miharu in view of Ninomiya to improve the composition's resistance to oxidation.

10. Regarding the metal salts, Ninomiya mentions sodium acetate as an alkali metal salt (col 5 ln 5-9). The pellet contains 0.0001 to 0.1 part by weight of alkali salt (c3) and 0.0001 to 0.1 part by weight of alkaline earth metal salt (c4). As such, the amounts used result in a range of ratios that overlap with Applicant's range.

11. Ninomiya discloses 0.001 to 0.05 parts by weight of phosphoric acid per 100 parts by weight of EVOH, which corresponds to 10-500 ppm (col 5 ln 46-52). Furthermore, the range disclosed by Applicant would have been made obvious to one of ordinary skill in the art through routine experimentation.

Ninomiya discloses low concentrations the effects of the invention, e.g., improved moldability, are not obtained, while higher concentrations result in fish eye formation on films.

12. Ninomiya is silent with regard to the hindered phenol antioxidant content as claimed by Applicant. Saxton reports the weight of the hindered phenol antioxidant in terms of weight, and not parts-per-million as Applicant describes. The examiner takes the position that Saxton's disclosure of 0.05 to 0.5 weight percent (col 3 ln 1-2) overlaps with the range claimed by Applicant. Furthermore, the range disclosed by Applicant would have been made obvious to one of ordinary skill in the art through routine experimentation.

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13. With respect to the overlapping ranges discussed above, as set forth in MPEP 2144.05, in the case where the claimed range “overlap or lie inside ranges disclosed by the prior art”, a *prima facie* case of obviousness exists, *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

14. With respect to Applicant’s limitation that the metal salts are added “in advance,” the examiner draws attention to the rejections under 35 USC 112 over the phrase. Also, it appears the combination of Miharuru in view of Ninomiya would instruct one of ordinary skill to add the metal salts to the EVOH in advance of blending the EVOH with the polyamide. Finally, the examiner notes such a limitation is a product-by-process limitation, and the examiner takes the position that the final article taught by Miharuru in view of Ninomiya would be indistinguishable from the claimed final article.

15. Regarding claims 4 and 11:

16. As mentioned, Ninomiya’s EVOH contains a boron compound (c1).

17. Regarding claims 5-6, 12-16:

18. Polyolefin and polyamide layers provide properties to laminates well-known in the art. For example, polyolefin layers are moisture barriers, and polyamide layers are oxygen barriers. Therefore at the time of the invention, one of ordinary skill would arrive at a structure wherein the polyolefin layer is the innermost layer, and the polyamide layer is the outermost layer in the laminate through routine experimentation depending on the end use. For example, in food packaging, a moisture barrier may be needed for a product, and therefore be located on the innermost layer next to said product, while an oxygen barrier is needed to keep the product from spoiling, and is located on the outer portion of the package.

19. Claims 3 and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miharuru et al. (WO 96/18681) in view of Ninomiya et al. (US 6,184,288) and Saxton (US 5,032,632) as applied to claims 1-2, 4-6, and 11-16 above, and further in view of Tachibana et al. (US 6,169,161).

20. Miharuru in view of Ninomiya and Saxton is previously explained. Each reference is silent with respect to an end-capped polyamide.

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21. The method of end-capping a polyamide was well-known in the art at the time of the invention. End-capping changes the terminal groups, as evidenced by Tachibana et al. (col 7 ln 31-41). The terminal group concentrations affect the overall properties of the polyamide polymer (col 8 ln 14-40).
22. Therefore at the time of the invention, it would have been obvious to one of ordinary skill in the art to use an end-capped polyamide depending on desired properties, in the combined invention of Miharuru in view of Ninomiya and Saxton.

***Claim Rejections - 35 USC § 112***

23. The following is a quotation of the first paragraph of 35 U.S.C. 112:
- The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
24. Claims 1-16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.
25. Claim 1 recites "the laminated article *includes* a layer composition selected from the group consisting of..." The specification does not appear to support the limitation that the article "includes" these compositions, which includes not only those specifically recited compositions, but opens the claim to any other layer composition.
26. Claim 1 recites the saponified ethylene-vinyl acetate copolymer (A) contains salts "in advance." The specification does not appear to support this limitation. While Applicant points to the examples for support, and the examiner agrees the examples show the addition of salts to the copolymer, there does not appear to be any mention of containing the salts "in advance."
27. The following is a quotation of the second paragraph of 35 U.S.C. 112:
- The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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28. Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

29. Claim 1 recites "the laminated article includes a layer composition selected from the group consisting of..." The scope of the claim is confusing because the inclusive "includes" limitation appears to conflict with the exclusive "consisting of" language of the claim, i.e. it appears the claim can read on articles having compositions other than those listed in the defined group. The examiner suggests Applicant replaces "includes" with "is".

30. Claim 1 recites the saponified ethylene-vinyl acetate copolymer (A) contains salts "in advance." The meaning of this phrase is unclear. There is no indication what this "in advance" *to*, e.g., "in advance *to* blending the nylon and EVOH," or what the phrase otherwise encompasses. Note, however, there does not appear to be support for amending the claim to recite "in advance to [an action]" in the specification.

### ***Response to Arguments***

31. Applicant's arguments filed 9 April 2010 have been fully considered but they are not persuasive.

32. Regarding 35 USC 112:

33. Applicant points to page 17 of the specification for support of the phrase in claim 1 "the laminated article *includes* a layer composition selected from the group consisting of..." The examiner does not find this persuasive. First, the examiner again notes "includes" appears to leave open the layer composition to any layer composition, not simply those identified. Second, while the specification allows for "arbitrary combinations [of layers 1, b and c]," this does not support the completely open language of claim 1. Applicant also notes page 17 discloses the use of adhesive layers. However, such a disclosure only supports the use of adhesive layers, not any possible layer composition as claimed. Finally, Applicant's language conflicts with standard Markush group practice. As indicated, Applicant should simply replace "includes" with "is" to overcome the rejection.

34. Applicant points to the dependent claims which recite the laminate "further compris[es]" additional layers or provides a specific outer layer (p6-7). While the examiner agrees the specification has support for these specific additional layers, it does not provide support for any possible arrangement as claimed.

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35. Regarding 35 USC 103:

36. Applicant notes the melt-kneaded nature of the blend, and further notes the potential pitfalls in making the blend (p8). However, the identified features are not found in the present claims. Furthermore, even if they were, it is not clear that the blend disclosed by Miharu in view of Ninomiya and Saxton would not meet these features, since they appear to contain the same blend as presently claimed.

37. Applicant states Miharu's use of ionomer renders any film made from the disclosed blend unsuitable for retort packaging (p9). The examiner notes the present claims are directed broadly to a "laminated article", not any specific type of packaging. The claims also use inclusive language, i.e. "comprising," and therefore encompass blends containing ionomers as taught by Miharu. Applicant also notes Miharu does not disclose the use of the film in retort packaging as proof of Applicant's assertion. The lack of such disclosure, however, cannot prove Miharu's invention is incapable of being used in retort packaging. There are no doubt a great number of uses for Miharu's films that are not specifically mentioned by Miharu.

38. Applicant points to the Table presented in Remarks filed 15 July 2009. In response, the examiner reproduces paragraph 37 from the Final Rejection mailed 12 November 2009:

Applicant provides a Table highlighting differences between Applicant's intended invention and the prior art. The examiner does not find the information provided persuasive for several reasons.

- First, note "the arguments of counsel cannot take the place of evidence in the record", *In re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965). It is the examiner's position that the arguments provided by the applicant regarding "specific advantageous effects" must be supported by a declaration or affidavit. As set forth in MPEP 716.02(g), "the reason for requiring evidence in a declaration or affidavit form is to obtain the assurances that any statements or representations made are correct, as provided by 35 U.S.C. 24 and 18 U.S.C. 1001".
- Second, as noted previously the presently *claimed* invention encompasses a blend having ionomer as taught by Miharu.
- Third, it is not clear what are the differences in properties between the various films. For example, while the present invention may have the "advantageous" effect of "delamination resistance", the Table does not explicitly provide evidence that the prior art does not also possess "delamination resistance", but rather the Table is simply silent with regard to such properties.
- Fourth, the information is not commensurate in scope with the claims. There is no discussion of the effects the various ratios may have on the properties, or how those may be unexpected.
- Finally, the Table treats the prior art separately. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Since the examiner relies on Miharu in view of Ninomiya and Saxton, any information regarding the prior art should clearly indicate how the combination of prior art cannot render the present claims obvious.



39. Applicant points to Table 1 of the specification, which purports to show the criticality of the salt ratio. The examiner does not find the data persuasive. First, the data are not commensurate in scope with the present claims: they utilize specific polymers with specific salts at specific loadings rather than the claims that use more general polymers and salts at a wide range of loadings. Finally, Miharu in view of Ninomiya disclose EVOH polymers having alkali metal salts and alkaline earth metal salts in amounts that correspond to the presently disclosed ratio.

40. Applicant states the prior art does not disclose the “specific advantageous effects of preventing odor and coloring after retort treatment” obtained by the presently claimed invention. First, the examiner again notes the present claims are directed broadly to a “laminated article”, not any specific type of packaging. Finally, Applicant has not provided any evidence to suggest that the prior art combination would not possess these characteristics.

41. Applicant states Ninomiya discloses an amount of phosphoric acid (c5) over a wide range (p11). The examiner notes Ninomiya discloses a range of 10-500 ppm, which overlaps with the present claims. Ninomiya also provides motivation to vary the amount of (c5). Therefore, it would have been obvious to vary the amount of phosphoric acid, including over the amounts claimed, through routine experimentation.

42. Applicant points to Comparative Examples in the specification, which purports to show the criticality of the amounts of phosphoric acid and hindered phenol used. The examiner does not find the data persuasive. First, the data are not commensurate in scope with the present claims: they utilize specific polymers with specific acids and phenols at specific loadings rather than the claims that use more general polymers and acids and phenols at a wide range of loadings. Finally, Miharu in view of Ninomiya and Saxton disclose EVOH polymers having phosphoric acid and hindered phenol in amounts that fall within the presently claimed ranges.

43. Applicant states Ninomiya does not teach use of the hindered phenol antioxidant (p12). In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375

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(Fed. Cir. 1986). The examiner maintains Miharuru in view of Ninomiya and Saxton disclose an article having all the features of the present claims.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Freeman whose telephone number is (571)270-3469. The examiner can normally be reached on Monday-Friday 9:00-6:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on (571)272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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